

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows.

This listing of claims will replace all prior versions, and listing, of claims in the application:

Claims 1-26 (cancelled)

Claim 27 (previously presented): A method for identifying a molecule that modulates the biological activity of a native quadruplex DNA, which comprises
contacting a test quadruplex DNA with a candidate molecule, wherein the test quadruplex DNA comprises the nucleotide sequence AGAGAAGAGG(GGA)₅GAGGAGGAGGCGC (SEQ ID NO:16), and wherein G is guanine and A is adenine; and determining the presence or absence of an interaction between the candidate molecule and the test quadruplex DNA, whereby the candidate molecule that interacts with the test quadruplex DNA is identified as the molecule that modulates the biological activity of the native quadruplex DNA.

Claim 28 (previously presented): The method of claim 27, wherein the test quadruplex DNA further comprises a nucleotide sequence comprising (GGA)₄AGA(GGA)₃GGC (SEQ ID NO:15); (GGA)₄ (SEQ ID NO:1); GGAGGGGGAGGGG (SEQ ID NO:17); AGGAGAA(GGA)₂GGT(GGA)₃G₃ (SEQ ID NO:18); (GGA)₃AGAATGCGA(GGA)₂G₃AGGAG (SEQ ID NO:19); CCGAA(GGA)₂A(GGA)₃G₄ (SEQ ID NO:20); (GGA)₂CCGA(GGA)₂ (SEQ ID NO:25); GGAA(GGA)₃ (SEQ ID NO:23); AGAAGAG(GGA)₃G (SEQ ID NO:22); AGCGA(GGA)₈GAGGAA (SEQ ID NO:21); or a combination thereof.

Claim 29 (cancelled)

Claim 30 (previously presented): A method for identifying a nucleotide sequence capable of forming a quadruplex structure, which comprises contacting a cell with a quadruplex interacting agent, identifying a subset of RNA nucleotide sequences increased or decreased 2-fold or more in

the cell as compared to a cell not contacted with the quadruplex interacting agent, and identifying a nucleotide sequence from the subset comprising AGAGAAGAGG(GGA)₅GAGGAGGAGGCGC (SEQ ID NO:16) as the nucleotide sequence capable of forming a quadruplex structure.

Claim 31 (previously presented): A method for identifying the presence or absence of a quadruplex structure in a nucleic acid of a sample, comprising

- (a) providing a sample comprising a nucleic acid comprising AGAGAAGAGG(GGA)₅GAGGAGGAGGCGC (SEQ ID NO:16); and, a quadruplex-interacting agent, wherein the quadruplex-interacting agent binds to a quadruplex structure in a heptad/tetrad conformation;
- (b) contacting the sample with the quadruplex-interacting agent; and
- (c) detecting the presence or absence of an interaction between the nucleic acid quadruplex structure and the quadruplex-interacting agent, whereby the presence of an interaction is indicative the presence of the quadruplex structure in the nucleic acid.

Claim 32 (new): A method for identifying a molecule that modulates transcription comprising

- (a) providing a quadruplex DNA; and, a candidate quadruplex DNA-binding molecule, wherein the quadruplex DNA comprises the nucleotide sequence AGAGAAGAGG(GGA)₅GAGGAGGAGGCGC (SEQ ID NO:16), and G is guanine and A is adenine, and the quadruplex DNA is in a heptad/tetrad conformation;
- (b) contacting the quadruplex DNA with the candidate quadruplex DNA-binding molecule, whereby the contacting occurs in a cell; and
- (c) determining the presence or absence of an interaction between the candidate quadruplex DNA-binding molecule and the quadruplex DNA, whereby the candidate molecule that interacts with the quadruplex DNA is identified as a molecule that modulates the transcription.

Claim 33 (new): The method of claim 32, wherein the quadruplex DNA further comprises a nucleotide sequence comprising (GGA)₄AGA(GGA)₃GGC (SEQ ID NO:15); (GGA)₄ (SEQ ID

NO:1); GGAGGGGGAGGGG (SEQ ID NO:17); AGGAGAA(GGA)₂GGT(GGA)₃G₃ (SEQ ID NO:18); (GGA)₃AGAATGCGA(GGA)₂G₃AGGAG (SEQ ID NO:19); CCGAA(GGA)₂A(GGA)₃G₄ (SEQ ID NO:20); (GGA)₂CCGA(GGA)₂ (SEQ ID NO:25); GGAA(GGA)₃ (SEQ ID NO:23); AGAAGAG(GGA)₃G (SEQ ID NO:22); AGCGA(GGA)₈GAGGAA (SEQ ID NO:21); or a combination thereof.